

# Enrico Casella

PHD CANDIDATE · COMPUTER SCIENCE

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## Education

### University of Kentucky

PHD COMPUTER SCIENCE

- 4.0 GPA
- Advisor: Dr. Simone Silvestri

Lexington, KY, USA

Fall 2018 - May 2023

### Università degli Studi di Palermo

MS COMPUTER ENGINEERING

- 110/110 cum laude
- Master's thesis at Missouri University of Science & Technology

Palermo, Italy

2015 - 2018

### Università degli Studi di Palermo

BS COMPUTER AND TELECOMMUNICATION ENGINEERING

- Computer Engineering Specialization

Palermo, Italy

2012 - 2015

## Professional Experience

- 2019-2023 **Ph.D. Computer Science - Research Assistant**, University of Kentucky  
2018-2019 **Ph.D Computer Science - Teaching Assistant**, University of Kentucky  
2017-2017 **Visiting Research Scholar**, Missouri University of Science & Technology

## Publications

### PEER-REVIEWED JOURNAL ARTICLES

- M. C. Cantor, **E. Casella**, S. Silvestri, D. L. Renaud, J. H. C. Costa, "Using Machine Learning and Behavioral Patterns Observed by Automated Feeders and Accelerometers for the Early Indication of Clinical Bovine Respiratory Disease Status in Prewaned Dairy Calves" in *Frontiers in Animal Science*, 2022.
- M. Cantor, **E. Casella**, S. Silvestri, D. Renaud, J. H. C. Costa, "Using machine learning and precision livestock farming technology for early indication of health status in preweaned dairy calves" in *Proceedings of the European Conference on Precision Livestock Farming (ECPLF)*, 2022.
- E. Casella**, M. Ortolani, S. Silvestri, S. K. Das, "Hierarchical syntactic models for human activity recognition through mobility traces" in *Springer Personal and Ubiquitous Computing*, 2019.
- E. Casella**, A. R. Khamesi, S. Silvestri, "A framework for the recognition of horse gaits through wearable devices" in *Elsevier Pervasive and Mobile Computing, Special Issue on Mobile and Social Sensing*, Vol. 67, 2020.

### CONFERENCE PROCEEDINGS

- E. Casella**, E. Sudduth, S. Silvestri, "Dissecting the Problem of Individual Home Power Consumption Prediction using Machine Learning" in *Proceedings of the IEEE International Conference on Smart Computing (SMARTCOMP)*, 2022 - Work in Progress
- E. Casella**, M. C. Cantor, S. Silvestri, D. L. Renaud, J. H. C. Costa, "Cost-aware Inference of Bovine Respiratory Disease in Calves using Precision Livestock Technology" in *Proceedings of the IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS)*, 2022. *13/42 accepted papers (30.95%)*
- E. Casella**, A. R. Khamesi, S. Silvestri, D. A. Baker, S. K. Das, "HVAC Power Conservation through Reverse Auctions and Machine Learning" in *Proceedings of the IEEE International Conference on Pervasive Computing and Communications (PerCom)*, 2022. *18/178 accepted long papers (10.11%)*

**E. Casella**, A. R. Khamesi, S. Silvestri, “Smartwatch Application for Horse Gaits Activity Recognition” in Proceedings of the IEEE International Conference on Smart Computing (SMARTCOMP), 2019

## IN PREPARATION

**E. Casella**, M.C. Cantor, S. Silvestri, J. H. C. Costa, “Using Precision Livestock Technology and Machine Learning for Cost-Aware Inference of Bovine Respiratory Disease Development and Recovery” in IEEE Access.

**E. Casella**, S. Silvestri, D. A. Baker, S. K. Das, “A Human-Centered Power Conservation Framework based on Reverse Auctions and Machine Learning” in IEEE Transactions on Smart Grids.

Tao Xu, Monteiro L., **Casella E.**, Silvestri S., Cortasa M.S.. Machine Learning Prediction of Soy Bean Yield Output based on Environmental Characteristics and Variety Types .

## Awards, Fellowships, & Grants

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2022	<b>Computational Commonwealth Summit 2022 winner</b> , The University of Kentucky’s Center for Computational Science (CCS)	SC’22
2022	<b>Initiative Award</b> , Graduate Student Association of Computer Science at University of Kentucky	
2022	<b>Thaddeus B. Curtz Memorial Scholarship</b> , University of Kentucky	\$ 1,000
2020	<b>Computational Commonwealth Summit 2022 winner</b> , The University of Kentucky’s Center for Computational Science (CCS)	SC’20

## Teaching Experience

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Spring 2019	<b>CS 371</b> , Teaching Assistant	University of Kentucky
Fall 2018	<b>CS 215</b> , Teaching Assistant	University of Kentucky

## Mentoring

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2022-	<b>Tao Xu</b> , Ph.D. Student	University of Kentucky
2022-	<b>Butcher Jackson</b> , Undergraduate Student	University of Kentucky
2021-2022	<b>Sudduth Eleanor</b> , Undergraduate Student	University of Kentucky
2021	<b>Hoang Duong H.</b> , Undergraduate Student	University of Kentucky

## Outreach & Professional Development

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### SERVICE

#### TECHNICAL PROGRAM COMMITTEE MEMBER

ACM 24th International Conference On Distributed Computing And Networking (ICDCN 2023)

IARIA 10th International Conference on Advanced Communications and Computation (INFOCOMP 2020)

#### ACADEMIC JOURNAL PEER REVIEW

IEEE Access

IEEE Internet of Things

IEEE Human-Machine Systems

Elsevier Pervasive and Mobile Computing  
Elsevier Ad-hoc Networks  
Elsevier Sustainable Energy, Grids and Networks  
Springer Reliable Intelligent Environments

## CONFERENCE PROCEEDINGS PEER REVIEW

IEEE International Conference on Distributed Computing Systems (ICDCS)  
IEEE Global Communications Conference (GLOBECOM)  
IEEE International Workshop on Smart Service Systems (SmartSys)  
IEEE International Conference on Distributed Computing in Smart Systems and the Internet of Things (DCOSS)  
IEEE International Conference on COMMunication Systems NETWORKS (COMSNETS)  
IEEE International Conference on Smart Computing (SMARTCOMP)  
IEEE International Conference on Communications (ICC)  
IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM)  
IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob)  
IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (LCN)  
IEEE/ACM International Symposium on Quality of Service (IWQoS)

## PROFESSIONAL MEMBERSHIPS

Institute of Electrical and Electronics Engineers (IEEE)

## OUTREACH

Nov 2022	<b>2022 ICNP</b> , Student Volunteer	Lexington, KY
2022-2023	<b>Graduate Student Association of Computer Science (GSACS)</b> , President	University of Kentucky
Fall 2022	<b>Guest Lecture for CS 686</b> , Linear Programming	University of Kentucky
2021-2022	<b>Graduate Student Congress</b> , Mental Health Committee Member	University of Kentucky
2021-2022	<b>Graduate Student Association of Computer Science (GSACS)</b> , Representative	University of Kentucky
Spring 2019	<b>Guest Lecture for CS 371</b> , Machine Learning Principles	University of Kentucky

## Coding Experience

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### PROGRAMMING LANGUAGES

Python  
Java  
C/C++  
Matlab  
L<sup>A</sup>T<sub>E</sub>X

### FRAMEWORKS AND LIBRARIES

Pandas  
Numpy/SciPy  
SciKit-Learn  
TensorFlow  
Gurobipy